

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021860**Date Inspected:** 19-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhou Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Segments**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, Dan Hernandez was present during the times noted above to observe the fit up, welding and related activities associated with the fabrication of the San Francisco Oakland Bay Self Anchored Suspension Bridge at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

OBG Trial Assembly Yard

Segment 12BE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a UT repair on a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3002M-090, Longitudinal Diaphragm to Bottom plate hold back weld. The welder is identified as #044504 and was observed welding in the 2G (horizontal) position using approved Welding Procedure Specification WPS-345-2G (2F)-FCM-repair-1 for WR20464.

Segment 13AW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3013A-002, Side Plate to Bottom Plate Longitudinal splice. The welder is identified as #067572 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

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This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3013A-004, Side Plate to Bottom Plate Longitudinal splice. The welder is identified as #067764 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3013R-209, Bottom Plate I-rib to Floor Beam. The welder is identified as #067588 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-TC-U4b-FCM-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3015S-180, Bottom Plate I-rib to Floor Beam. The welder is identified as #215676 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-TC-U4b-FCM-1.

### Segment 12BW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBW12C-018, Cantilever Bracket top flange to Edge Plate at panel point 114.5. The welder is identified as #046709 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-P-2211-TC-U4b-FCM-1.

### Segment 12CW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBW12C-029, Cantilever Bracket top flange to Edge Plate at panel point 116.5. The welder is identified as #041713 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-P-2211-TC-U4b-FCM-1.

### Segment 13AE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3007AD-020, FL3 web to Side Plate. The welder is identified as #037743 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3007AD-033, FL3 web to Side Plate. The welder is identified as #067610 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Wang Li Yang, Zhou Peng and Shen Jian Bo. The welding variables recorded by QC appeared to comply with the Applicable WPS.

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### Segment 12BW

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Longitudinal Diaphragm to Bottom Plate hold back weld, cross beam and counter weight side at east end of segment.

### Segment 12AE

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Edge Plate to Deck Plate hold back weld, Bike Path side at panel point 111.

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the root pass after back gouge of Cantilever Bracket top and bottom flange to Edge Plate CJP weld joint at panel point 112.5.

### Segment 12BE, 12CE

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the root pass after back gouge of Cantilever Bracket top and bottom flange to Edge Plate CJP weld joint at panel points 113.5, 114.5 for 12BE and 115.5, 116.5 for 12CE.

### Segment 13AE

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Bottom Plate at locations of removed temporary welds of jig fixture.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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### Summary of Conversations:

No relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 150-0042-2372 , who represents the Office of Structural Materials for your project.

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**Inspected By:** Hernandez,Dan

Quality Assurance Inspector

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**Reviewed By:** Miller,Mark

QA Reviewer